Standard strains of *S. typhimurium* and *S. enteritidis* were obtained from culture collection centre. *S. pullorum* plain antigen was procured from IVRI, Izatnagar. The strains were characterized morphologically and biochemically. *Salmonella* whole cell antigens were prepared and sterility and purity of antigens were checked.

White leghorn chickens were immunized with prepared whole cell antigens and booster doses were given in the stipulated time interval. Then the immune eggs were collected and stored. Egg laying capacity of the chickens after immunization was monitored.

The IgY antibodies were purified from immunized eggs. Protein concentration and total IgY concentration were estimated. The average concentration of protein and total IgY were 40mg/ml and 30.24mg/ml respectively. Purity of IgY was determined by SDS-PAGE, in which, 180KDa protein bands were observed.

Specific reactivity of IgY with respective antigen was assessed by agglutinating capacity in the Rapid slide agglutination test. Titer of specific IgY in egg yolk was estimated by ELISA and MAT. A peak titer of more than 1:100000 were observed on 35th day onwards. In MAT the peak titer was 1:2560 on 49th day onwards.

Stability of IgY in different temperature and pH was evaluated to determine its ability to withstand in the gastrointestinal tract. It was noticed that the ability of IgY was relatively stable when it was with its natural form (yolk) when compared to purified form.

*In-vitro* efficacy of Anti-*Salmonella*-IgY was analyzed by growth inhibition assay. The binding activity of specific IgY with bacterial cells was resulted in inhibiting the growth of *Salmonella* in liquid medium. *In-vivo* efficacy of Anti-*Salmonella*-IgY against experimental salmonellosis in broiler chicks was carried out. It was observed that the inclusion of Hyper immune egg yolk powder in poultry feed was effective in preventing *Salmonella* colonization in broiler chickens and supported them as functional feed additive for gain weight.